

## CLIMATOLOGICAL DATA FOR OCTOBER, 1913.

## DISTRICT NO. 5, UPPER MISSISSIPPI VALLEY.

GEO. M. CHAPPEL, District Editor.

## GENERAL SUMMARY.

The month was not so pleasant as usual, although the first half was warm, with several periods of rainy weather, while the latter half was cold, wet, and generally disagreeable. Special features were the tornadic storms of the 10th in southwestern Wisconsin, the cold weather during the closing days, and the heavy snowfall. The storms referred to exacted a toll of 4 human lives, injured more than a score of persons, and caused an estimated property loss of \$250,000. More detailed information respecting these storms appears in a separate article elsewhere in this report. A cold wave of great severity for the season visited the district during the closing days of the month, previous records for low temperature in October having been broken at many points. The rare instance of zero weather in October was experienced in some localities in the Dakotas and Minnesota. The month's snowfall was the heaviest of record at many stations, as much as 8 inches falling over an area in northeastern Missouri.

The first killing frost of the season over the southeastern part of the district occurred on or about the 21st. But little damage resulted, since all staple products had passed the stage where injury was possible. It was reported that fall plowing in parts of North Dakota had to be abandoned, partly owing to dryness and partly because of the frozen condition of the ground.

The following table presents in condensed form the leading features of climatological interest for the various parts of the district:

Parts of States within District 5.	Temperature.				Precipitation.					
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Average snowfall.	Average number of days with precipitation.
North Dakota.....	38.9	-4.4	90	-3	1.80	+0.60	3.95	0.66	0.5	5
Minnesota.....	42.6	-3.0	90	-4	2.54	+0.27	5.66	0.58	2.0	7
South Dakota.....	40.8	-6.7	90	-4	1.36	-0.37	1.36	1.36	2.5	5
Wisconsin.....	45.9	-1.6	82	7	3.03	+0.36	4.58	1.64	1.7	9
Iowa.....	49.5	-1.9	89	10	3.33	+0.96	6.09	0.90	1.5	9
Missouri.....	53.1	-3.2	89	12	2.63	+0.90	4.63	0.63	3.3	8
Indiana.....	52.3	-0.8	86	23	3.54	+1.50	4.00	3.09	1.3	11
Illinois.....	53.0	-1.1	87	17	3.72	+1.52	8.52	1.67	1.0	11

## TEMPERATURE.

The mean temperature for the district was  $47.0^{\circ}$ , or  $2.1^{\circ}$  lower than the normal. The month averaged colder than usual generally, but there was a very slight excess of temperature in extreme eastern Wisconsin, northeastern Illinois, and the adjoining portion of Indiana. The greatest deficiency prevailed in parts of North Dakota

and Minnesota, where it averaged almost  $4^{\circ}$  a day. In those sections the month was the coldest October in the last 15 years. In other parts of the district it was one of the coldest Octobers since 1895. The highest mean temperature was  $58.2^{\circ}$ , at Cobden, Ill., and the lowest mean was  $34.6^{\circ}$ , at Hannah, N. Dak. The first half of the month was warmer than usual, while the latter half was decidedly cold, the deficiency in mean temperature in some localities during the last-named period averaging  $10^{\circ}$  a day. Several days possessed the characteristics of early winter. In almost all cases the highest monthly temperature at the various stations occurred between the 2d and 7th or on the 9th or 10th; the latter dates were confined to stations in Indiana, Illinois, and Missouri. The highest temperature reported was  $90^{\circ}$ , this occurring at 1 station in each of the Dakotas and at 2 stations in Minnesota. Generally in Wisconsin, over part of North Dakota and Minnesota, and at a few scattered stations elsewhere the temperature remained below  $80^{\circ}$  throughout the month. The lowest maximum temperature reported was  $66^{\circ}$  at Fosston, Minn. The cold periods on and about the 21st and during the closing days of the month produced all the monthly lowest temperatures at the various stations. The last-named period was the more important and some of its characteristics have already been mentioned.

## PRECIPITATION.

The average precipitation for the district was 3.03 inches, or 0.86 inch more than the normal. The average for each of the State areas, except South Dakota, shows an excess, only 23 per cent of the stations reporting a deficiency. The greatest amount was 8.52 inches, at Sparta, a station in southwestern Illinois, while Chester, in the same county, had approximately 8 inches. At those stations the fall was the greatest of record for October. A few stations in the northern part of the district had less than an inch, Windom, Minn., reporting the least amount, 0.58 inch. As a rule the rainfall came at brief intervals; the driest period occurred in the middle of the month, when 3 or 4 successive days passed with scarcely any precipitation in the district. The only instance of a rainfall equaling or exceeding 2.5 inches in 24 hours occurred at Pontiac, Ill., on the 7th, 2.58 inches being reported. The average number of rainy days was 9.

*Snow.*—The month was notable for its heavy snowfall. Snowstorms were numerous after the 18th, and the monthly totals exceeded all past records for October at many stations. A few stations reported more than 6 inches, the heaviest amount being 10.6 inches, at Park Rapids, Minn. The heaviest State average was 3.3 inches, in Missouri, and the average fall for all stations in the district was 1.5 inches. Some snow fell at practically all points in the district.

## RIVERS.

Little of interest occurred in connection with river conditions. In most cases streams were low for the season and the variation during the month was slight.

## MISCELLANEOUS.

Northwesterly winds prevailed over much of the district. Gales occurred on the 10th in parts of Iowa and southern Wisconsin, and on the 28th in eastern North Dakota and northwestern Minnesota. The highest velocity reported was 52 miles an hour, at Moorhead, Minn., on the 28th. There was less sunshine than usual in most parts of the district. The average number of clear days was 13; partly cloudy, 7; cloudy, 11.

Press dispatches and a report from the cooperative observer at Mount Vernon, a station in southern Illinois, mention the occurrence of an earthquake at that station on the morning of the 5th. The local extent of the phenomenon is apparent, since no reports were made of it from outside the county in which Mount Vernon is situated. The damage was immaterial.

## NOTE.

The following statement is published for the purpose of correcting any erroneous impressions that may have been obtained as to the authority for the location of power sites shown on the Relief Map of Wisconsin, facing page 1022, Monthly Weather Review for July, 1913, and the separate of that bulletin, District No. 5, for the same month:

Messrs. W. O. Hotchkiss and F. T. Thwaites compiled only the data on which the relief map is based and are not responsible in any way for the location of power sites shown thereon. The sites were entered on this map by W. R. Bormann, who obtained their location from a chart prepared by H. A. von Schon, consulting engineer and member of American Society of Civil Engineers, and published in the Water-Power Chronicle of February, 1913.

## TORNADOES IN WISCONSIN ON OCTOBER 10, 1913.

W. R. BORMANN, Observer.

On the afternoon of October 10, 1913, several counties in western and southern Wisconsin were swept by severe windstorms. In eastern Vernon and southwestern Juneau counties they were most severe, and one which occurred there in the early afternoon assumed all the characteristics of a tornado. A second and smaller tornado was also reported in the extreme southern part of Rock County later in the afternoon. The writer did not visit the scene the destruction, and this report is based on information received in response to a circular letter which was sent to all postmasters and other individuals in the vicinity of the devastated districts, and on newspaper accounts. After reviewing the letters of reply and the press dispatches, it is conservatively estimated that the total loss to buildings, crops, etc., was about \$250,000. One man was killed by lightning and about 30 people were injured, 3 of whom died later. In all cases the physical injuries did not seem severe, but the shock received from the passage of the storm appeared to be the main cause of death. The destruction to crops consisted mostly of damage to tobacco in storage. The Censor, a newspaper published in Viroqua, Vernon County, states that over 100 tobacco sheds were destroyed in that county alone.

The weather map on the morning of October 10 showed a well-developed, energetic area of low pressure central over Manitoba and reaching southward over the upper

Mississippi Valley, with barometer readings below 29.3 inches at the center. During the early afternoon of that day southern Wisconsin occupied the southeast quadrant of the low, a typical position for the formation of violent local storms in that section. La Crosse is the nearest regular Weather Bureau station to the scene of the tornado, being about 35 miles from the nearest point of the path of the storm. The official in charge at La Crosse reports the following meteorological conditions as having prevailed during that afternoon:

Thunder was heard here at 12.27 p. m., and rain began at 12.32 p. m. and lasted until 2.20 p. m. There was nothing unusual in this storm and it was not at all severe, except for a few minutes. No damage was done in this city, except that a few trees were damaged. In North La Crosse the storm was apparently more severe and a few buildings were damaged. Telephone and telegraph lines suffered severely outside of the city. At this station the temperature was high during the night, a maximum of 68.4° being recorded at 3 a. m. It was 64° at 8 a. m. and reached a maximum of 76.5° by noon. The relative humidity was 92 per cent at 8 a. m. and there was a "feeling" as if a storm were brewing.

The principal tornado seems to have originated at Soldiers Grove about 1.30 p. m. This is a little village in the extreme northeastern part of Crawford County. It took a northeasterly course, passing through the Kickapoo Valley, where the towns of Readstown, Liberty, Ross, and Franklin suffered severely. It then took a more easterly course, passing near West Lima, when it again traveled due northeast, being reported next within 3 miles of Hillsboro. The country between West Lima and Hillsboro, a distance of about 15 miles, is sparsely settled, which made it impossible to obtain much definite information as to the storm's movement and destruction between these two places. After leaving Hillsboro it was again observed near Elroy, which is 5 miles northeast of Hillsboro, from whence it proceeded to Mauston, a town of about 2,000 population, where it caused the most serious damage. It reached this point at 2.30 p. m., having traveled a distance of about 45 miles in an hour. Reports from all the foregoing mentioned towns were to the effect that a well-defined, pendant, funnel-shaped cloud with rotary winds was observed. These reports also indicate that the width of the path of the storm ranged from 20 rods to one-half mile. There is no definite evidence that the entire distance of 45 miles was devastated, and there were probably sections in the path of the tornado where the vortex failed to reach the ground and the storm subsided sufficiently to cause very little damage, but from the information obtained there is reason to believe that the storm which struck Soldiers Grove is the same which was seen at Mauston, and that it covered approximately the path as indicated above.

The cooperative observer at Mauston, Mr. E. L. Hitchcock, states that the loss at Mauston amounts to about \$100,000, which includes the loss from the total destruction of 5 houses, damage to 100 others, and destruction to shade trees, crops, etc. Newspaper dispatches from Mauston are to the effect that the opera house, Juneau County Bank, Powers Block, and 20 other buildings were unroofed. The Mauston Star also estimated the total loss in and near Mauston at \$100,000. It further states that—

buggies and articles of clothing and furniture were carried for rods and deposited in fields. The Davis and Hiram Barney houses were damaged the most in this section. Fred Riche's poultry houses and outbuildings were all destroyed and his poultry carried away and killed. The storm then swept over to Tremont Street, where the most severe damage was done, every house being more or less wrecked and windows were blown in and trees torn up. The Hansen, Bedell, Hungerford, and Price homes were totally destroyed. The Southern and Staniforth homes were so badly wrecked that they are practically useless. \* \* \* The storm next swept over State Street and damaged every building from Randall's livery barn as far up as John Hauer's residence, etc.

TABLE 1.—Climatological data for October, 1913. District No. 5, Upper Mississippi Valley.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.										
<i>North Dakota.</i>																					
Amenia.	Cass.	954	17	39.8	- 5.2	76	3	8	29	40	3.48	+ 2.08	2.42	T.	5	16	w.	C. E. Wood.			
Bottineau.	Bottineau.	1,038	21	36.0	- 6.5	82	2	27	28	47	0.76	- 0.32	0.47	0	7	8	nw.	H. F. Steinmeir.			
Bowbells.	Burke.	1,958	1	35.6	.....	81	0	0	20	40	0.72	.....	0.42	.....	5	20	3	s.	G. H. Phelps.		
Cando.	Towner.	1,488	12	6	37.0	80	2	2	28	40	0.83	.....	0.32	4.0	4	21	4	nw.	E. T. Judd.		
Crosby.	Divide.	1,482	8	37.9	- 2.6	78	2	8	29	37	1.40	+ 0.17	0.54	0.9	9	8	10	w.	H. C. Kaschau.		
DeVils Lake.	Ramsey.	1,482	1	35.6	.....	80	4	—	2	30	50	1.49	+ 0.60	0.78	0	9	14	s.	U. S. Weather Bureau.		
Donnybrook.	Ward.	1,760	14	7	35.6	- 6.6	80 <sup>a</sup>	2	58	29	47	0.69	- 0.03	0.54	0.5	5	5	6	nw.	C. J. De Vore.	
Dunseith.	Rolette.	17	17	7	35.6	.....	77	2	0	28	45	1.45	.....	0.91	2.0	3	9	9	13	nw.	C. E. Goodsell.
Eckman (near).	McHenry.	7	1	39.2	.....	86	2	4	29	54	1.66	.....	0.55	0.5	5	18	5	s.	Geo. Yenny.		
Fessenden.	Wells.	1,610	1	42.2	- 3.7	81 <sup>a</sup>	2	7 <sup>a</sup>	29	51 <sup>a</sup>	2.23	+ 0.87	1.34	0.4	4	9	8	sw.	G. T. Seymour.		
Forman.	Sargent.	1,249	21	38.5 <sup>a</sup>	- 4.4	80 <sup>b</sup>	4	—	2	30	50	1.49	+ 0.60	0.78	0	9	14	nw.	A. Maltby.		
Grafton.	Walsh.	827	21	38.5 <sup>a</sup>	.....	80 <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	n.	A. R. T. Wylie.		
Granville.	McHenry.	1,504	6	34.6	.....	77	2	0	28	45	1.45	.....	0.91	2.0	3	9	9	13	nw.	W. A. Christianson.	
Hannah.	Cavalier.	1,503	17	5	35.8	79	2	1	28	45	0.95	.....	0.71	0.5	5	15	7	nw.	J. Moffatt.		
Hansboro.	Towner.	901	7	42.0	.....	75	2	8	29	39	2.97	.....	1.14	T.	7	11	9	nw.	Geo. Dale.		
Hillsboro.	Trail.	1,579	12	37.7	- 4.6	73 <sup>a</sup>	13	4 <sup>a</sup>	29	36 <sup>a</sup>	1.69	+ 0.84	0.60	1.2	5	15	0	nw.	F. E. Mayall.		
Lakota.	Nelson.	1,615	17	36.6	.....	76 <sup>a</sup>	1	2	29	41	1.73	.....	0.90	0	6	15	0	nw.	C. R. Pettes.		
Larimore.	Grand Forks.	1,134	18	39.4	- 5.0	80	2	4	29	46	2.65	+ 1.34	1.10	0.2	5	15	4	nw.	J. Woolner.		
Lishon.	Ransom.	1,081	9	46.2	+ 1.03	78	2	8	29	50	2.93	+ 1.71	1.90	T.	7	13	5	nw.	J. M. Freeman.		
McKinney.	Reznille.	1,640	19	37.8	- 4.0	88	2	5	28	44	0.93	+ 0.15	0.80	T.	3	3	14	nw.	W. S. Adams.		
McLeod.	Ransom.	1,075	1	41.0	.....	90	2	5	29	45	3.40	.....	1.45	T.	5	8	13	nw.	N. P. Swenson.		
Manfred.	Wells.	1,605	10	40.4	- 3.4	79	2	5	29	45	1.91	+ 1.03	0.73	1.0	6	10	9	nw.	Martin Reinholdt.		
Mayville.	Trail.	975	17	41.3	- 3.9	77	2	1	29	43	1.73	+ 0.49	0.69	0	6	15	6	nw.	P. B. Anderson.		
Minot.	Sargent.	1,097	1	39.8	- 4.6	84	1	8	29	45	2.77	.....	1.35	0	4	5	9	17	n.	W. C. Gould.	
Minto.	Ward.	1,557	17	38.8	- 4.4	77	2	5	29	43	1.11	+ 0.08	0.31	1.0	6	12	1	w.	H. J. Edman.		
Minto.	Walsh.	820	20	38.8	.....	77	2	5	29	43	0.52	.....	0.52	0.3	6	15	5	se.	Louise Bates.		
Oriska.	Barnes.	1,270	8	40.2	.....	76	3	5	29	38	3.95	.....	1.70	T.	5	10	9	nw.	S. S. Marsh.		
Park River.	Walsh.	998	9	39.4	.....	79	2	4	29	42	1.92	.....	1.15	0.1	6	9	11	nw.	J. J. Taylor.		
Pembina.	Pembina.	789	21	38.0	.....	83	2	6	28	49	0.66	.....	0.36	0	4	15	12	nw.	F. J. Prochaska.		
Power.	Richland.	1,020	21	40.2	- 4.9	78 <sup>a</sup>	13	8 <sup>b</sup>	28	46 <sup>b</sup>	2.90	+ 1.38	1.55	0.5	5	13	10	nw.	C. W. Shumaker.		
Towner.	McHenry.	1,452	11	39.2	- 3.7	83	2	5	29	47	0.94	- 0.17	0.67	T.	3	13	8	nw.	J. A. Power.		
University.	Grand Forks.	830	21	38.5	- 5.5	75	2	5	29	44	1.61	+ 0.33	0.55	0.6	7	13	7	nw.	B. Bagley.		
Wahpeton.	Richland.	962	19	40.2	- 6.6	80	2	8	29	47	1.91	+ 0.27	1.11	0	1	14	7	nw.	U. S. Weather Bureau.		
Walhalla.	Pembina.	966	6	7	40.6	.....	80	3	9	29	46	3.21	.....	1.90	1.5	9	14	2	nw.	Fred E. Smith.	
Westhope.	Bottineau.	7	21	38.0	- 5.0	83	2	2	29	54	1.40	+ 0.73	0.78	0	3	7	10	nw.	Ivanhoe Lee.		
Willow City.	do.	1,471	21	37.2	- 5.0	83	2	2	29	54	1.40	+ 0.73	0.78	0	3	7	10	nw.	W. A. Meddaugh.		
<i>Minnesota.</i>																					
Albert Lea.	Freeborn.	1,220	22	46.7	- 1.6	83	2 <sup>a</sup>	13	21	36	1.50	- 0.73	0.90	2.0	4	10	19	2	sw.	Edward Carey.	
Alexandria.	Douglas.	1,391	19	46.5	.....	84	2 <sup>a</sup>	13	21	36	1.50	- 0.73	0.90	2.0	4	10	19	2	sw.	P. O. Unnum.	
Angus.	Polk.	870	11	38.2	- 4.9	76	3	0	29	47	2.00	+ 0.84	0.92	0.8	8	11	7	13	n.	John Nadovnik.	
Bagley.	Clearwater.	7	7	37.2	.....	75	3	3	21	40	3.35	.....	1.85	1.0	6	8	17	6	sw.	Jens Nelson.	
Baudette.	Beltrami.	1,084	3	38.6	.....	74	3	5	28	39	3.17	.....	1.16	1.2	10	5	15	11	nw.	J. A. Gjelhaug.	
Beardsley.	Bistone.	1,090	17	44.1	- 3.2	89	3	8	29	52	1.91	+ 0.12	1.00	1.0	5	5	17	9	nw.	G. L. Fitzgerald.	
Bemidji.	Beltrami.	1,400	9	46.0	.....	89	3	8	29	52	1.91	.....	2.08	6	6	16	16	nw.	C. W. Warfield.		
Bird Island.	Renville.	1,039	23	45.0	- 3.1	87	3	5	21	43	1.05	- 0.88	0.60	3.5	6	9	6	16	nw.	Dr. F. L. Puffer.	
Brainerd.	Crow Wing.	1,215	7	43.4	.....	83	3	9	30	37	2.83	.....	0.81	1.04	6	13	9	16	nw.	Theodore Miller.	
Caledonia.	Houston.	1,173	20	46.5	- 2.1	74	10	16	31	28	4.48	+ 1.96	1.04	4.5	13	2	16	nw.	W. D. Belden.		
Cass Lake.	Wilkin.	975	7	40.6	.....	80	3	9	29	46	3.21	.....	1.90	1.5	9	14	2	15	se.	J. T. Neiss.	
Collegeville.	Cass.	1,300	6	46.7	.....	83	2	6	28	49	0.66	.....	1.44	4.0	7	10	10	16	nw.	C. W. Burns.	
Cookston.	Stearns.	1,242	20	43.9	- 4.0	85	3	13	21	36	1.83	- 0.07	0.92	1.8	6	14	7	10	nw.	F. Tembreull.	
Detroit.	Polk.	863	24	39.0	- 4.9	75	3	6	29	36	1.89	+ 0.28	1.05	T.	5	17	6	8	sw.	A. G. Andersen.	
Ely.	Becker.	1,364	17	39.3	- 4.7	80	3	5	21	40	3.75	+ 1.75	1.85	T.	5	17	6	8	sw.	G. W. Peoples.	
Fairmont (near).	St. Louis.	1,230	1	42.8	.....	79	2	9	29	42	2.83	.....	1.05	2.0	5	10	7	12	se.	Iver Twisted.	
Faribault.	Martin.	1,240	26	45.6	- 2.3	82	3	12	20	35	1.62	- 0.21	0.54	3.0	7	12	13	6	nw.	W. F. Wherland.	
Farmington.	Rice.	1,003	15	46.0	- 3.8	81	3	11	31	36	1.84	- 0.81	0.62	0.2	9	19	6	6	nw.	Dr. A. B. Moulton.	
Fergus Falls.	Dakota.	902	21	46.8	- 1.0	85	3	10	21	45	2.29	- 0.46	0.62	2.0	8	10	6	15	nw.	E. D. Akin.	
Fort Ripley.	Ottoville.	1,210	21	42.4	- 3.9	78	3	13	29	32	3.60	+ 1.98	2.18	0.8	13	14	10	7	nw.	C. E. Kissinger.	
Fosston.	Crow Wing.	1,289	3	36.9	.....	66	2 <sup>a</sup>	2	21	35	3.74	.....	1.57	1.4	11	14	11	6	sw.	J. J. Tucker.	
Glencoe.	McLeod.	1,000	16	46.5	- 0.9	84	3	12	31	36	2.10	- 0.75	0.75	1.35	1.0	4	19	11	6	sw.	O. N. Hem.
Grand Meadow.	Mower.	1,338	25	46.3	- 0.7	80	6	10	21	37	2.54	- 0.13	0.52	5.5	12	13	12	6	se.	L. V. Koos.	
Gull Lake Dam.	Cass.	1,215	25	43.0	.....	81	3	10	30	41	2.64	.....	0.68	1.6	9	12	8	11	nw.	C. F. Greening.	
Hallock.	Kittson.	815	14	38.3	- 5.5	75	2	—	4	31	46	1.80	+ 0.43	0.75	T.	6	18	4	9	n.	U. S. Engineer Corps.
Hastad.	Norman.	870	7	39.3	.....	76	3	5	29	44	2.73	.....	1.78	0	5	13	8	10	n.	D. A. Robertson.	
Hinckley.	Pine.	1,050	8	43.3	.....	81 <sup>a</sup>	3	13	30	44 <sup>a</sup>	2.12	.....	0.93	1.0	5	7 <sup>a</sup>	8	10	se.	A. G. Holstrom.	
International Falls.	Koochiching.	1,112	10	38.9	- 3.3	74	3	9	22	37	2.88	+ 0.73	0.95	2.6	13	13	0</				

TABLE 1.—Climatological data for October, 1913. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.		
<b>Minnesota—Continued.</b>																			
Rochester.	Olmstead.	991	8	46.2	.....	82	3	14	21	42	1.91	.....	1.05	.....	6	16	4	11	se.
Roseau.	Roseau.	1,040	3	36.0	71	3	2	21	45	2.13	0.72	2.5	11	13	12	6	nw.	Mary P. Leslie.	
St. Charles.	Winona.	850	22	46.8	-1.3	78	3	15	21	37	2.33	-0.68	0.61	1.0	8	15	4	12	se.
St. Cloud.	Sherburne.	1,020	36	45.4	-4.4	85	3	11	21	40	2.27	-0.25	1.08	2.1	8	10	5	15	nw.
St. Paul.	Ramsey.	940	32	45.8	-2.3	84	3	15	21	38	2.03	-0.31	0.68	0.6	6	7	11	13	n.
St. Peter.	Nicollet.	825	18	46.6	.....	82	3	11	31	42	1.91	.....	1.05	.....	24	0	7	12	nw.
Sandy Lake Dam.	Aitkin.	1,234	20	40.8	-3.7	78	3	12	20†	36	3.63	+1.60	1.01	0.1	9	5	16	10	sw.
State Sanatorium.	Cass.	1,336	5	42.2	76	3	10	21	34	5.66	1.94	3.0	4	8	10	13	5	nw.	
Stillwater.	Washington.	694	7	.....	.....	.....	.....	1.97	.....	.....	.....	.....	.....	16	0	5	13	se.	
Taylors Falls.	Chisago.	759	6	46.6	.....	82	3†	13	21	42	4.36	2.49	1.0	6	12	7	12	s.	
Thief River Falls.	Fennington.	1,137	3	36.6	.....	72	1†	0	29	43	2.08	.....	0.60	2.0	5	19	0	12	n.
Tracy.	Lyon.	.....	.....	46.4	90	3	9	30	37	0.85	.....	0.50	3.0	3	13	13	5	nw.	
Warren.	Marshall.	859	1	39.2	86†	14	4b	29	54b	2.57	.....	1.22	3.0	4	7	15	9	se.	
Warroad.	Roseau.	1,069	3	38.2	.....	76	13	2	21†	48	1.77	.....	0.70	2.0	6	21	2	8	w.
Windom.	Cottonwood.	1,336	5	46.4	86	3	6	21†	39	0.58	.....	0.35	1.0	4	9	15	7	nw.	
Winnebago.	Faribault.	1,100	15	47.9	-2.0	85	3	11	21	44	1.96	-0.54	0.77	3.0	6	17	9	5	nw.
Winnibigoshish.	Itasca.	1,300	25	40.8	-2.7	78	3	10	22†	40	4.25	+2.39	1.59	2.2	9	10	7	14	n.
Winona.	Winona.	700	17	49.4	+1.1	81	3	19	21	40	2.55	+0.34	0.94	1.0	12	15	7	9	w.
Worthington.	Nobles.	1,593	18	42.0	-6.0	78	3	6	30	37	1.06	-1.02	0.46	4.0	6	20	1	10	s.
Zumbrota.	Goodhue.	917	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. C. Rowell.	
<b>South Dakota.</b>																			
Milbank.	Grant.	1,148	22	40.8	-6.7	90	3	-4	29	43	1.36	-0.37	0.60	2.5	5	16	6	9	nw.
Sisseton.	Roberts.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Mary Partridge.	
<b>Wisconsin.</b>																			
Antigo.	Langlade.	1,489	19	44.5	-1.1	78	5	16	22†	37	2.82	.....	0.96	T.	5	17	0	14	sw.
Barron.	Barron.	1,115	22	45.1	-0.8	76	6	11	31	40	2.21	-0.77	0.90	0.5	7	13	11	7	n.
Beloit.	Rock.	750	47	49.6	-1.4	78	4	21	31	34	2.61	+0.52	0.50	1.0	11	14	5	12	s.
Big St. Germain Dam.	Villas.	1,690	3	42.8	.....	77	4	17	30	47	2.98	.....	0.98	1.5	9	11	9	sw.	
Brodhead.	Green.	812	15	50.3	-1.7	79	4	19	31	39	3.22	+0.96	0.82	T.	9	16	5	sw.	
Burnett.	Dodge.	880	9	47.6	76b	10	20b	30	34b	4.58	1.66	4.8	8	9b	7b	13b	6	s.	
Cottage Grove.	Dane.	883	2	.....	.....	76	4	16	31	40	3.30	.....	0.97	3.1	14	9	14	8	sw.
Darlington.	Lafayette.	867	7	48.6	.....	76	4	16	31	40	3.30	.....	1.20	0	6	14	7	10	se.
Deerskin Dam.	Forest.	1,685	3	43.2	.....	75	4†	13	30	39	3.60	.....	1.05	0.8	9	5	12	14	sw.
Delavan.	Walworth.	920	22	49.2	+0.5	80	4†	18	31	40	2.44	+0.57	0.69	3.0	8	12	4	15	sw.
Dodgeville.	Iowa.	1,220	13	47.2	-4.1	76	4†	18	31	42	2.36	+0.27	1.31	1.0	6	12	6	13	n.
Downing.	Dunn.	883	11	44.1	-2.8	78b	3	12b	21†	46b	3.20	-0.28	1.10	T.	7	3b	5b	24b	w.
Eau Claire.	Eau Claire.	800	22	47.2	-1.5	78	3	12	21	39	2.16	-1.26	0.39	T.	10	10	13	8	w.
Glen Flora.	Rusk.	1,475	1	43.6	73	14	12	31	41	2.39	.....	0.64	5.5	8	18	6	7	nw.	
Grand Rapids.	Wood.	980	14	46.4	-0.7	76	6	15	31	40	3.99	+1.85	1.13	3.8	15	10	13	8	nw.
Grantsburg.	Burnett.	1,095	22	44.5	-1.4	79	3	11	31	40	2.74	+0.18	1.51	0.5	5	10	5	16	s.
Hancock.	Waushara.	1,091	21	48.1	-0.5	78	4	17	31	34	2.72	+0.37	0.90	4.0	10	9	9	13	se.
Hatfield.	Jackson.	973	19	45.1	-3.6	79	6	14	31	46	2.69	-0.41	0.86	0.9	11	7	13	11	nw.
Hayward.	Sawyer.	1,107	22	44.8	-0.4	77	3	12	31	41	2.06	-1.06	1.03	0	3	5	16	10	n.
Hillsboro.	Vernon.	1,000	22	46.0	-1.8	77	5	12	31	41	2.73	+0.34	0.95	2.0	9	15	10	6	sw.
Koepenick.	Langlade.	1,683	23	45.8	-0.1	75	7	12	31	40	2.40	-0.85	0.80	1.0	7	11	8	12	sw.
La Crosse.	La Crosse.	714	41	48.0	-1.9	77	3	21	31	37	2.87	+0.41	0.79	T.	15	11	9	10	nw.
Lake Mills.	Jefferson.	897	32	48.7	-1.1	78	4†	21	31	29	3.40	+1.05	0.92	1.3	13	9	10	11	nw.
Lancaster.	Grant.	1,070	22	47.8	-1.8	77	5	16	31	37	3.60	+1.45	1.20	2.5	8	7	17	7	w.
Long Lake.	Oneida.	1,593	5	43.0	78	4	11	30	47	4.30	1.23	0.7	1.3	10	4	17	1	17	w.
Madison.	Dane.	974	44	48.3	-0.5	76	4	22	31	36	2.53	+0.11	0.66	T.	12	10	8	13	sw.
Marsfield.	Wood.	1,276	0	44.2a	76	4	13a	22	42a	2.31	.....	0.74	2.0	8	2	9	10	nw.	
Mather.	Juneau.	982	9	43.2a	77*	6	14a	31	44	3.35	.....	1.01	3.0	11	9a	8a	13a	12	w.
Meadow Valley.	do.	882	17	47.3	-1.8	75	4†	18	31	33	2.95	+0.38	0.75	3.0	7	14	7	10	nw.
Medford.	Taylor.	974	22	46.5	-1.5	78	4†	15	31	43	3.31	+0.69	1.11	3.0	8	5	17	7	nw.
Merrill.	Lincoln.	1,420	24	44.7	-1.3	75	3	10	22	38	2.65	-0.84	0.80	4.0	8	12	13	6	s.
Minoqua.	Oneida.	1,287	7	44.4	75	4	12	23	44	3.11	.....	0.90	1.5	11	12	1	18	17	nw.
Mundovi.	Buffalo.	1,604	9	44.2	76	3	18	30	40	3.09	.....	0.84	1.5	12	17	14	10	17	nw.
Mount Horeb.	Dane.	738	5	46.4	78	3	16	21	42	2.96	.....	0.83	1.0	1.0	15	9	15	9	nw.
Muscooda.	Grant.	1,226	9	48.0	78	4	15	31	33	3.35	.....	1.10	6.0	10	17	3	11	11	nw.
Nellisville.	Clark.	666	4	48.0	80	5	18	31	44	2.97	.....	0.64	0	0	10	24	0	7	nw.
New Richmond.	St. Croix.	996	23	45.6	-1.6	78	3	17	22	46	2.59	-0.44	0.86	T.	4	.....	.....	.....	Wm. Hessler.
Osceola.	Polk.	806	23	44.8	-2.2	82	3	14	21†	42	4.28	+1.32	2.30	2.0	7	9	15	7	s.
Park Falls.	Price.	1,492	23	42.0	75	3	13	31	39	2.87	.....	0.70	6.5	10	12	3	16	s.	
Portage.	Columbia.	804	24	49.4	-0.8	77	4	21	31	33	4.23	+2.02	1.18	2.5	11	15	4	14	nw.
Port Edwards.	Wood.	968	3	44.4	81	4	10	31	40	3.05	.....	1.12	4.0	8	10	7	14	nw.	
Prairie du Chien.	Crawford.	828	22	48.8	-2.0	79	4†	19	31	42	3.26	+1.01	1.18	T.	7	17	4	10	nw.
Prairie du Sac.	Sauk.	750	5	49.4	77	4	14	31	34	3.23	.....	1.47	0.5	12	15	5	11	s.	
Prentice.	Price.	1,551	15	43.6	-1.2	73	6†	11	31	42	3.43	+0.37	1.03	5.8	10	9	6	16	s.
Rest Lake.	Villas.	1,600	0	43.4	76	4	16	31	41	1.64	.....	0.75	T.	5	8	2	21	se.	
Rhineland.	Oneida.	1,550	7	44.7	78	4													

TABLE 1.—Climatological data for October, 1913. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Number of rainy days 0.01 inch or more.	Number of clear days.	Number of parti- cally cloudy days.	Number of cloudy days.	Prevailing wind direc- tion.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.								
<i>Iowa.</i>																			
Albia.	Monroe.	959	15	50.5	-2.7	87	3	16	31	44	3.22	+0.65	1.08	10	13	12	6	sw.	
Algona.	Kosuth.	1,213	39	47.4	-1.3	82	3	12	30	35	3.13	+1.04	1.45	6	18	4	9	nw.	
Alta.	Buena Vista.	1,513	22	46.6	-3.7	83	3	11	21	40	3.40	+1.26	2.18	2	0	6	15	10	nw.
Amana.	Iowa.	721	37	49.8	-1.0	80	5	16	31	40	3.36	+0.71	1.03	2.5	12	14	11	nw.	
Ames.	Story.	926	37	50.4	-0.6	89	14	12	21	39	1.71	-0.76	0.70	0.2	5	7	19	5	nw.
Baxter.	Jasper.	998	13	49.6	-3.8	82	3	15	21	42	3.36	+0.55	0.92	2.0	12	13	12	6	ne.
Belle Plaine.	Benton.	886	23	49.4	-1.0	81	3	15	31	42	4.49	+2.14	1.21	1.5	10	10	10	nw.	
Belmond.	Wright.	1,184	3	48.4	-4	83	3	14	31	38	2.86	-2.87	3.0	8	8	16	7	nw.	
Bloomfield.	Davis.	881	6	52.4	-5	86	6	19	31	38	5.61	-2.20	12	18	2	11	.....	Albert Power.	
Bonaparte.	Van Buren.	22	51.9	-3.1	84	5†	19	31	37	3.01	+1.25	1.10	3.5	10	7	19	6	.....	
Boone.	Boone.	1,134	8	48.3	-3	83	3	15	21	36	2.18	-0.65	T.	10	15	4	12	s.	
Britt.	Hancock.	1,236	16	47.8	-2.5	86	3	11	31	37	2.25	+0.09	1.07	2.2	10	15	4	12	
Burlington.	Des Moines.	544	17	51.4	-4.3	84	6†	18	31	39	3.13	+0.91	1.03	2.5	8	17	3	11	
Carroll.	Carroll.	1,265	23	46.8	-4.2	81	3	14	21†	45	1.11	-1.13	0.70	0	3	17	4	10	
Cedar Rapids.	Linn.	733	31	49.6	-1.8	80	3	20	31	37	3.18	+0.72	1.21	1.0	10	14	8	s.	
Charles City.	Floyd.	1,015	22	47.4	-0.8	81	3	16	21	38	4.05	+0.22	1.14	0.1	15	10	11	n.	
Clear Lake.	Cerro Gordo.	1,241	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Weather Bureau.	
Clinton.	Clinton.	593	48	51.1	+0.6	84	4	19	31	39	3.56	+1.16	0.70	2.7	10	13	8	10	nw.
Columbus Junction.	Louisa.	595	12	52.6	-1.8	82	6	19	31	36	3.59	+1.14	1.42	1.2	9	19	7	5	nw.
Davenport.	Scott.	580	42	51.8	-1.0	79	5	21	31	34	3.01	+0.62	1.30	2.0	9	12	7	12	nw.
Decorah.	Winneshiek.	875	20	50.2	0.0	78	3†	20	21	39	5.23	+2.81	1.68	2.5	12	13	10	9	.....
Delaware.	Delaware.	1,083	22	48.6	-0.4	79	5	17	30†	37	2.65	+0.45	0.72	3.9	11	12	10	9	nw.
Des Moines.	Polk.	861	35	51.2	-1.3	84	6	20	31	34	2.67	-0.01	0.77	0.2	12	13	10	8	nw.
Dubuque.	Dubuque.	639	40	49.8	-2.2	78	5	23	31	34	2.92	+1.24	0.83	0.2	13	12	5	14	s.
Earlham.	Elkader.	.....	11	50.4	-0.7	83	3	11	31	38	2.82	+0.27	0.77	T.	6	16	6	9	nw.
Elm.	Clayton.	727	34	47.6	-1.8	75	1†	15	31	37	3.89	+1.05	1.20	0.5	10	16	7	8	se.
Estherville.	Howard.	1,182	3	48.6	-3.2	84	3	11	21	39	3.70	-1.17	1.5	0.70	2	4	13	4	nw.
Fairfield.	Emmet.	1,298	18	45.6	-3.2	84	3	11	21	40	9.90	-1.27	0.60	2.0	4	13	14	4	nw.
Fayette.	Jefferson.	780	20	51.4	-1.0	82	6	19	31	39	4.78	+1.86	1.96	1.5	11	23	0	8	ne.
Forest City.	Fayette.	1,003	23	47.3	+0.6	78	3	16	31	44	3.26	+0.61	0.70	6.0	13	18	6	9	sw.
Fort Dodge.	Winnebago.	1,226	19	46.0	-3.7	81	3†	13	21	39	2.75	+0.45	1.10	4.0	6	15	10	6	s.
Fort Madison.	Webster.	1,126	13	49.0	-3.3	82	3†	16	21	35	3.28	+0.19	1.22	1.0	7	21	1	9	sw.
Lee.	Marion.	516	64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss L. A. McCready.	
Grand Meadow.	Marshall.	1,052	14	.....	.....	.....	.....	.....	.....	.....	4.77	+2.25	1.35	1.5	8	.....	.....	J. L. Wylie.	
Grunell.	Clayton.	1,180	22	47.6	-1.6	75	3	17	31	33	4.23	+1.76	1.08	2.5	11	9	14	8	nw.
Grundy Center.	Powershiek.	1,023	21	50.8	+0.1	84	3	17	31	38	6.09	+3.62	1.40	0.2	10	19	5	7	nw.
Guthrie Center.	Grundy.	976	22	50.0	-1.8	82	3	15	21	38	5.51	+1.04	1.02	1.2	10	16	9	6	n.
Hampton.	Franklin.	1,077	18	49.4	-3.0	82	3	14	31	33	2.14	-0.13	0.46	T.	9	20	5	6	nw.
Humboldt.	Humboldt.	1,095	25	.....	-1.0	85	3	16	21	38	5.13	+2.70	1.60	3.2	9	12	13	6	nw.
Independence.	Buchanan.	921	49	49.0	-0.2	78	3	15	31	39	4.28	+1.92	1.01	0.2	11	16	8	7	nw.
Indianola.	Warren.	969	22	51.2	-2.5	83	3†	19	31	32	3.10	+1.00	1.25	0.2	8	12	9	10	nw.
Iowa City.	Johnson.	683	53	49.6	-1.5	84	9	15	31	44	3.66	+0.88	0.85	2.0	11	13	9	9	nw.
Iowa Falls.	Hardin.	1,170	20	47.4	-2.3	80	30	15	31	38	4.39	+1.34	0.60	3.0	10	17	5	9	nw.
Jefferson.	Greene.	1,052	14	49.2	-0.6	84	3†	14	21	39	2.42	+0.20	0.62	T.	8	14	7	10	se.
Keokuk.	Lee.	614	42	52.8	-1.7	83	5†	20	31	34	4.13	-1.06	0.51	T.	11	12	7	12	nw.
Keosauqua.	Van Buren.	644	21	50.9	-3.9	85	3†	16	31	46	4.22	+2.38	1.82	3.0	9	.....	.....	U. S. Weather Bureau.	
Knoxville.	Marion.	920	18	.....	.....	.....	.....	.....	.....	.....	4.28	+1.57	1.28	T.	10	.....	.....	J. H. Landes.	
Lacona.	Warren.	.....	14	.....	.....	.....	.....	.....	.....	.....	4.08	+1.57	1.28	1.1	10	.....	.....	Casey and Belville.	
Lansing.	Allamakee.	632	8	.....	.....	.....	.....	.....	.....	.....	4.08	+1.57	0.84	T.	11	.....	.....	J. B. Alter.	
Le Claire.	Scott.	576	13	.....	.....	.....	.....	.....	.....	.....	3.96	+2.07	1.57	0.7	10	.....	.....	Chas. R. Serene.	
Marshalltown.	Marshall.	947	21	49.7	-2.6	87	3	17	31	44	3.24	+0.86	0.80	2.0	13	3	15	15	.....
Mason City.	Cerro Gordo.	1,132	16	47.4	-2.2	82	3	14	21†	42	1.73	-0.39	0.84	T.	4	16	3	2	nw.
Monroe.	Jasper.	922	1	51.2	.....	84	3	16	31	38	4.97	-1.32	1.0	0	9	15	8	8	s.
Mount Pleasant.	Henry.	729	32	51.3	-1.3	80	5†	20	31	35	3.80	+1.72	1.33	1.6	11	17	7	7	sw.
Muscatine.	Muscatine.	554	53	.....	.....	.....	.....	.....	.....	.....	3.29	+0.25	0.31	0.5	12	13	12	12	.....
New Hampton.	Chickasaw.	1,169	16	.....	.....	.....	.....	.....	.....	.....	1.50	0.4	0.4	0	19	4	8	8	s.
Nora Springs.	Floyd.	1,064	49.7	.....	.....	85	3	15	21	43	3.29	+2.66	1.26	1.4	12	14	11	6	nw.
Northwood.	Worth.	1,122	17	45.5	-4.2	80	3	13	21	39	2.57	-0.03	0.90	6.8	10	15	7	9	nw.
Olin.	Jones.	760	15	50.0	-1.2	80	6†	18	31	39	4.48	+1.07	1.20	2.8	7	16	7	8	nw.
Osage.	Mitchell.	1,184	26	47.8	-10.4	87	6	21	32	30	2.00	+0.18	0.60	T.	11	19	7	5	nw.
Oskaloosa.	Mahaska.	843	37	50.5	-1.6	82	3	16	31	41	3.88	+0.68	0.98	0.5	7	16	3	12	nw.
Ottumwa.	Vappello.	649	18	53.6	-1.4	87	3	17	31	46	3.71	+0.76	1.40	0.40	8	17	8	6	nw.
Pella.	Marion.	877	11	51.2	-2.4	86	3	15	31	44	5.28	+2.66	1.84	1.2	11	20	1	10	nw.
Perry.	Dallas.	975	12	50.9	-3.3	85	3	14	31	42	3.77	-0.18	0.77	1.2	6	16	8	7	nw.
Pocahontas.	Calhoun.	1,248	9	47.4	-2.2	82	3	12	21	37	1.03	-0.91	0.75	1.0	3	17	3	11	nw.
Rockwell City.	Sac.	1,278	37	44.4†	-	75	3†	14	21	30†	1.55	-0.74	0.95	1.0	4	11	6	8	nw.
Sac City.	Madison.	1,070	12	51.4	-4.1	85	6	18	31	35	3.87	+1.46	1.28	T.	9	17	6	8	nw.
St. Charles.	Keokuk.	877	17	50.2	-4.1	81	5†	13	31	38	2.31	+0.28	0.80	2.0	10	7	15	9	s.
Sigourney.	Stockport.	745	11	51.4	-3.5	83	3	13											

TABLE 1.—*Climatological data for October, 1913. District No. 5—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.				Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unadjusted.	Number of rainy days.	Number of clear days.	Number of partly cloudy days.	Number of fully cloudy days.		
<i>Indiana.</i>																				
Collegeville.	Jasper.	14	53.6	-0.4	86	10 <sup>a</sup>	23	31	37	3.51	+1.54	0.90	0.8	9	13	3	16	w.	John Zeller.	
Knox.	Starke.	716	8	52.5	.....	83	10	27	21 <sup>b</sup>	3.37	.....	0.91	0.6	12	10	11	10	s.	W. R. R. Tatman.	
Laporte.	Laporte.	810	17	51.0 <sup>c</sup>	-2.2	83 <sup>d</sup>	9	25 <sup>e</sup>	20 <sup>f</sup>	3.74	+1.38	0.75	3.0	10	13	4	14	nw.	Wm. M. Walton, Jr.	
Plymouth.	Marshall.	790	8	52.0	.....	85	10	26	21	3.09	.....	0.71	0.3	11	11	13	7	nw.	J. W. Siders.	
South Bend.	St. Joseph.	726	20	53.2	+0.1	85	9 <sup>g</sup>	27	21	3.2	4.00	+1.58	1.15	2.0	14	8	13	10	se.	Henry H. Swaim.
<i>Illinoian.</i>																				
Aledo.	Mercer.	738	13	51.8	-1.4	79	4	20	31	34	2.81	+0.57	0.78	1.0	10	12	6	13	nw.	William B. Frew.
Alexander.	Morgan.	670	20	53.8	-2.0	82	6	23	31	36	3.07	+1.08	0.92	1.2	10	9	11	11	s.	George H. Hall.
Antioch.	Lake.	861	12	51.2	-0.1	81	4 <sup>h</sup>	22	30	37	5.51	+3.09	2.00	1.8	9	13	4	14	sw.	J. C. James.
Astoria.	Fulton.	650	14	52.4	-1.1	81	4 <sup>h</sup>	20	31	38	2.30	+0.26	0.65	2.0	8	12	9	10	nw.	Edward V. Bohl.
Aurora.	Kane.	678	34	51.0	-0.4	82	10	22	31	36	3.85	+1.24	1.23	1.5	11	20	4	7	ne.	Miss Alice M. Holden.
Beardstown.	Cass.	448	6	.....	.....	.....	.....	.....	.....	.....	2.60	.....	0.70	2.0	9	18	7	6	.....	Mrs. L. M. Rice.
Bement.	Platt.	685	6	53.0	-2.5	83	10	21	31	36	4.24	+2.41	1.09	0.5	10	13	5	13	s.	J. W. B. Stewart.
Bloomington.	McLean.	840	22	53.0	.....	.....	.....	.....	.....	.....	5.50	+2.87	1.59	T.	11	13	1	17	s.	Prof. H. M. Pearce.
Cairo.	Alexander.	359	0	57.2	-1.9	83	6	32	31	28	2.71	.....	0.80	1.7	8	11	9	11	sw.	U. S. Weather Bureau.
Camp Point.	Adams.	732	0	.....	.....	.....	.....	.....	.....	.....	3.65	+1.47	1.18	1.0	13	13	6	12	nw.	Capt. D. M. Morris.
Carbondale.	Jackson.	445	8	56.9	.....	87	6	26	31	41	5.73	.....	1.90	0.3	11	13	6	12	sw.	State Normal University.
Carlinville.	Macoupin.	663	23	55.5 <sup>b</sup>	-1.0	83 <sup>b</sup>	6	20 <sup>a</sup>	31	38 <sup>c</sup>	2.86	+0.45	1.00	0.5	12	15	5	11	nw.	Dr. J. D. Conley.
Carlyle.	Clinton.	470	28	.....	.....	.....	.....	.....	.....	.....	4.36	+2.09	1.12	T.	10	13	1	14	sw.	Hervey O. Jones.
Chester.	Randolph.	380	21	53.1	.....	83	10	23	31	35	7.98	+5.33	2.12	T.	15	15	7	6	.....	Charles S. Gollon.
Clinton.	Dewitt.	727	3	53.1	.....	83	10	23	31	35	4.60	.....	0.64	1.5	12	11	10	10	nw.	J. Frank Zeigler.
Cobden.	Union.	656	30	58.2	-2.1	87	9	27	31	39	6.97	+3.49	1.95	T.	9	12	3	16	sw.	John Buck Co.
Dakota.	Stephenson.	929	8	49.4	.....	82	4	17	31	37	3.41	.....	0.78	T.	11	9	9	13	nw.	Elmer G. Smith.
Decatur.	Macon.	685	23	53.6	-1.9	85	10	23	31	38	3.65	+1.47	1.18	1.0	13	12	9	10	nw.	Prof. J. H. Coonradt.
Dixon.	Lee.	725	23	49.8	-1.7	78	4	20	31	36	3.22	+1.12	0.90	T.	9	13	5	11	sw.	H. U. Bardwell.
Du Quoin.	Perry.	450	25	57.7 <sup>b</sup>	-0.4	86 <sup>a</sup>	7	25 <sup>a</sup>	31	40 <sup>c</sup>	4.81	+2.53	1.26	0.6	10	14	7	10	sw.	G. H. Knetzger.
Dwight.	Livingston.	600	20	52.6	-0.1	86	10	23	31	42	2.98	+1.04	0.57	0.9	13	11	6	14	s.	Edward O. Welch.
East St. Louis.	St. Clair.	481	2	.....	.....	.....	.....	.....	.....	.....	5.03	.....	1.51	T.	13	13	1	14	sw.	W. M. C. Brown.
Edwardsville.	Madison.	554	14	.....	.....	.....	.....	.....	.....	.....	5.17	+2.55	1.32	0.5	13	13	3	12	nw.	W. H. Morgan.
Elgin.	Kane.	716	6	51.3	.....	81	10	23	31	35	2.24	.....	0.65	T.	9	10	7	14	s.	Elgin Observatory.
Ewing.	Franklin.	449	1	.....	.....	.....	.....	.....	.....	.....	4.76	.....	1.49	0.5	11	11	8	10	sw.	Abram Wilson.
Fairview.	Fulton.	733	2	.....	.....	.....	.....	.....	.....	.....	3.03	.....	0.73	1.7	9	13	5	13	s.	Prof. F. U. White.
Galva.	Henry.	812	21	51.6	-1.4	81	4	19	31	35	2.05	+0.08	0.62	1.6	10	16	3	12	nw.	R. C. Goodrich.
Grafton.	Jersey.	422	20	.....	.....	.....	.....	.....	.....	.....	5.18	+2.56	1.47	1.2	11	17	5	9	w.	H. W. Redemann.
Greenville.	Bond.	635	35	56.0	-0.6	80	10	24	31	35	4.55	+1.69	1.38	0.3	11	14	5	9	sw.	Geo. F. Kneeland.
Griggsville.	Pike.	650	28	54.2 <sup>b</sup>	-1.7	84 <sup>a</sup>	7	23 <sup>a</sup>	31	34 <sup>c</sup>	3.87	+1.49	1.01	2.5	8	14	9	8	nw.	L. L. Euteneuer.
Havana.	Mason.	475	21	53.2	-3.5	82	6 <sup>h</sup>	20	31	40	2.27	+0.29	0.55	0.5	8	10	5	16	s.	Dr. F. A. Powell.
Henry.	Marshall.	500	25	52.4	-0.4	81	4	21	31	35	2.65	+0.55	1N1	T.	9	20	2	9	nw.	Mrs. Effie A. Woodward.
Hillsboro.	Montgomery.	676	19	55.2 <sup>b</sup>	-2.2	83 <sup>b</sup>	10	23 <sup>a</sup>	31	39 <sup>c</sup>	3.33	+0.44	1.02	T.	8	15	0	16	nw.	F. M. Muhlig.
Joliet.	Will.	609	22	51.2	0.9	86	10	23	31	33	2.93	+0.81	0.59	4.0	12	11	4	16	nw.	George Stevens.
Kishwaukee.	Winnebago.	730	25	50.4	-0.8	81	4	21	31	38	2.88	+0.25	0.92	0.5	13	13	5	13	s.	Prof. F. E. Sanford.
La Grange.	Cook.	657	21	51.2	-0.8	85	10	24	31	38	2.54	+0.91	0.72	2.0	11	10	11	10	n.	Geo. E. Campbell.
La Harpe.	Hancock.	698	34	52.6	-1.8	84	6 <sup>h</sup>	19	31	46	2.07	-0.39	0.72	2.5	8	17	8	6	nw.	M. N. Wertz.
Lanark.	Carroll.	883	24	49.4	-0.8	80	4	17	31	40	3.61	+1.46	1.14	3.2	13	17	1	13	nw.	U. S. Weather Bureau.
La Salle.	La Salle.	536	8	.....	.....	.....	.....	22 <sup>a</sup>	31	31	2.99	.....	1.38	T.	12	12	1	13	sw.	Prof. C. S. Oglesbee.
Lincoln.	Logan.	575	25	53.0	-1.8	83	10	20	31	42	4.21	+2.17	1.21	1.2	13	11	8	12	s.	State Normal University.
Macomb.	McDough.	700	9	.....	.....	.....	.....	.....	.....	.....	2.20	.....	0.80	0.5	9	20	2	12	sw.	C. B. Schmeltzer.
Manteno.	Kankakee.	711	2	.....	.....	.....	.....	.....	.....	.....	2.51	.....	0.41	1.4	10	19	5	7	sw.	Joseph H. Peltier.
Martinton.	Iroquois.	632	26	52.0	-0.1	87	10	24	31	37	4.00	+1.73	1.20	1.9	9	12	12	7	nw.	Dr. Robt. F. Lischer.
Mascoutah.	St. Clair.	425	23	56.4	-0.6	82	6	24	31	41	5.15	+2.43	1.60	T.	11	13	10	10	nw.	John C. Danforth.
Minonk.	Woodford.	745	20	53.2	-0.8	86	10	21	31	41	2.39	+0.74	0.64	T.	17	14	5	12	nw.	Dr. J. C. Hutchison.
Monmouth.	Warren.	784	21	52.5	-1.2	82	5 <sup>h</sup>	18	31	39	3.21	+1.09	0.80	1.5	1	15	0	16	s.	E. G. Cryder.
Morris.	Grundy.	518	2	52.4	.....	86	10	22	31	41	2.05	.....	0.50	1.5	11	15	10	6	sw.	S. A. Maxwell.
Morrison.	Whiteside.	685	19	51.4	-1.4	80	3 <sup>h</sup>	18	31	44	2.76	+0.68	0.57	1.0	7	15	5	11	nw.	J. D. Louis.
Morrisonville.	Christian.	626	14	52.8 <sup>b</sup>	-3.3	85	10	24 <sup>a</sup>	31	31 <sup>c</sup>	4.00	+1.59	0.98	1.1	12	12	10	10	n.	Theo. P. Stelle.
Mount Vernon.	Jefferson.	511	19	55.0	-2.8	85	11	26	31	34 <sup>c</sup>	4.66	+2.22	1.71	0.5	10	10	11	10	n.	Harry E. Gewe.
Nashville.	Washington.	503	13	.....	.....	.....	.....	.....	.....	.....	6.25	+3.56	1.32	T.	12	12	1	13	sw.	Fred A. Free.
Oregon.	Ogle.	702	4	.....	.....	.....	.....	.....	.....	.....	3.99	.....	0.95	4.0	10	11	3	17	n.	Miss Maude M. Harris.
Ottawa.	La Salle.	500	27	52.5	-0.6	82	6	22	31	37	2.70	+0.62	0.78	0.5	9	2	20	2	sw.	Julius Keefer.
Pana.	Christian.	695	27	54.4	-1.0	85	10	23	31	37	4.19	+1.71	1.25	1.5	10	10	9	12	s.	A. C. McBride.
Pawpaw.	Lee.	930	1	.....	.....	.....	.....	.....	.....	.....	2.93	.....	1.38	T.	11	10	1	10	s.	U. S. Weather Bureau.
Pearl.	Peoria.	609	57	52.0	0.0	82	4	21	31	39	3.11	+0.54	0.83	0.2	10	7	9	15	s.	Geo. Butterworth.
Pontiac.	Livingston.	546	11	53.7	-0.7	85	10	23	31	36	5.05	+2.99	2.58	T.	13	9	8	14	s.	Fred J. Brinkoetter.
Quincy.	Adams.	481	7	53.7	.....	85														

TABLE 2.—*Daily precipitation for October, 1913. District No. 5, Upper Mississippi Valley.*

Stations.	Watershed.	Day of month.																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
<i>North Dakota.</i>																																	
Amenia.	Red.		.15	2.42	.16	.55															T.	.06	T.	.02	T.			T.	.20		T.		3.48
Bottineau.	Mouse.		.08	.03																													0.76
Bowbells.	do		.15	.06																													0.72
Cando.	Sheyenne.				T.	.32	T.																										0.83
Crosby.	Mouse.		.27	.12	.02																											1.40	
Devils Lake.	Sheyenne.						T.																										0.69
Donnybrook.	Mouse.																																0.69
Dunseith.	do																																0.69
Eckman (near).	do																																1.49
Fessenden.	James.		T.	.55	.03	T.																										1.66	
Forman.	Sheyenne.		1.34	.55																												2.23	
Grafton.	Red.		*	*	.48																												1.49
Granville.	Mouse.																																1.45
Hannah.	Pembina.																																0.95
Hansboro.	Red.																																2.97
Hillsboro.	do		.95	1.14	.44	.01																										1.69	
Lakota.	Sheyenne.		T.	.37	.20																											1.73	
Langdon.	Pembina.	19																															2.65
Larimore.	Red.																																2.93
Lisbon.	Sheyenne.		.20	1.90	T.	.08	10																									0.93	
McKinney.	Mouse.																																3.40
McLeod.	Sheyenne.		1.45	.15	.15																											1.91	
Manfred.	do		.26	.26	.04																											1.73	
Mayville.	Red.		.44	.69	.16	.13																										2.77	
Milnor.	do		1.35	.28																												1.64	
Minot.	Mouse.		.04	.12	.03																											1.05	
Minto.	Red.		.52	.37																												1.11	
Oriska.	Sheyenne.		*	*	1.10																											3.95	
Park River.	Red.		T.	.30	.20																											1.92	
Pembina.	do																																0.66
Power.	Sheyenne.		1.55	.14																												2.60	
Towner.	Mouse.																																0.94
University.	Red.	T.	.55	.18	.21																											1.61	
Wahpeton.	do		1.11	.03																												1.91	
Walhalla.	Pembina.																																0.66
Westhope.	Mouse.																																1.40
Willow City.	do																																0.66
<i>Minnesota.</i>																																	1.50
Albert Lea.	Mississippi.		.90		.20																												1.50
Alexandria II.	do		.02		.32																												2.00
Angus.	Red.		1.85	15	.22																												3.35
Bagley.	do																																3.17
Baudette.	Rainy.	T.	.46	.85	.28	.04	.02																									1.91	
Beardsley.	Minnesota.		1.00		.09																											3.64	
Bemidji II.	Minnesota.		2.08																														1.05
Bird Island.	Minnesota.																																2.83
Brainerd.	Minnesota.		.55	.35	.18																											4.48	
Caledonia II.	do		.60	.09																												3.21	
Cass Lake II.	Minnesota.		.06	T.	.44	.25																										4.32	
Cokato II.	do																																1.83
Delton II.	Red.																																1.89
Ely.	Rainy.	.17																															2.83
Fairmount (near).	Minnesota.		.54		.12																											1.62	
Fairbault II.	Minnesota.		.51	19	.62	.22																									1.84		
Farmington.	do		12	61	.50																										2.29		
Fergus Falls.	Red.		.01	1.28	.90	.08																									3.60		
Fort Ripley II.	Mississippi.		.03	T.	.40	.20																									1.42		
Fosston.	Red.		.03		1.25	1.57	.02																							3.74			
Glencoe.	Mississippi.		.50		.25																										2.10		
Grand Meadow.	do		.03		.52	.23																									2.54		
Gull Lake Dam.	do		.69	31	.35																										2.64		
Hallock.	Red.																															1.80	
Hinckley.	do																															2.73	
International Falls.	St. Croix.		.04	.57	.95	.12	.10	.09																						2.12			
Itasca State Park.	Minnesota.		1.25		.01																										2.88		
Lake Crystal.	Minnesota.		.84																												4.07		
Leech Lake Dam.	Minnesota.		1.30	.46	.05	.04																								1.74			
Little Falls.	do																														2.61		
Rainy.	Minnesota.		.43																												0.62		
Long Prairie.	Minnesota.		.25	.60	.10																										1.90		
Mankato II.	Minnesota.		.04																												1.80		
Milaca.	Minnesota.																														2.00		
Milan.	Minnesota.																														1.55		
Minneapolis.	Minnesota.</td																																

TABLE 2.—*Daily precipitation for October, 1913. District No. 5—Continued.*

TABLE 2.—*Daily precipitation for October, 1913. District No. 5—Continued.*

Stations.	Watershed.	Day of month.																																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.	
Iowa—Continued.																																		
Britt.	Iowa.	.03			1.07	.10	T.	.01		.10	.48																						2.25	
Burlington   .	Mississippi.																																3.13	
Carroll   .	Raccoon.																																1.11	
Cedar Rapids   .	Cedar.																																3.18	
Charles City.	do.																																4.05	
Clear Lake.	do.																																4.05	
Clinton.	Mississippi.																																3.56	
Columbus Junction.	Iowa.																																3.56	
Davenport.	Mississippi.	T.																															3.01	
Decorah.	do.																																5.23	
Delaware.	do.																																2.65	
Des Moines.	Des Moines.																																2.67	
Dubuque.	Mississippi.																																2.92	
Earlham.	Raccoon.																																2.62	
Elkader.	Mississippi.																																3.69	
Elma.	Wapsipin'ln.																																3.70	
Estherville   .	Des Moines.																																0.90	
Fairfield.	Skunk.																																4.78	
Fayette.	Mississippi.																																3.26	
Forest City   .	Cedar.																																2.75	
Fort Dodge   .	Des Moines.																																3.28	
Fort Madison.	Mississippi.																																6.09	
Gilman.	Iowa.																																4.77	
Grand Meadow.	Mississippi.																																4.23	
Grimmell.	Iowa.																																6.09	
Grundy Center.	Cedar.																																3.51	
Guthrie Center.	Raccoon.																																2.14	
Hampton.	Cedar.																																5.13	
Humboldt.	Des Moines.																																3.10	
Independence.	Wapsipin'ln.																																3.10	
Iowa City   .	Des Moines.																																3.09	
Iowa Falls   .	Iowa.																																3.24	
Jefferson.	do.																																3.49	
Keokuk.	Mississippi.																																2.42	
Kenosauqua   .	Des Moines.																																1.43	
Knoxville.	do.																																4.22	
Lacona.	do.																																4.28	
Lansing.	Mississippi.																																3.09	
Le Claire   .	do.																																3.09	
Marshalltown   .	Iowa.																																3.24	
Mason City.	Cedar.																																1.73	
Mount Pleasant.	Skunk.																																4.97	
New Castle   .	Mississippi.																																3.23	
New Hampton.	Wapsipin'ln.																																3.23	
Nora Springs.	Cedar.																																3.20	
Northwood.	do.																																2.57	
Olin.	Wapsipin'ln.																																3.48	
Osage.	Cedar.																																2.60	
Oskaloosa.	Des Moines.																																2.88	
Ottumwa.	do.																																3.71	
Pella.	do.																																5.28	
Perry.	Raccoon.																																2.37	
Pocahontas.	do.																																1.63	
Rockwell City.	do.																																1.50	
Sac City.	do.																																1.55	
St. Charles.	Des Moines.																																3.87	
Sigourney.	Skunk.																																3.87	
Stockport.	Storm Lake.																																3.45	
Storm Lake.	Raccoon.																																2.83	
Tipton.	Cedar.																																3.35	
Toledo.	Iowa.																																5.22	
Washington.	Skunk.																																3.48	
Waterloo   .	Cedar.																																4.11	
Waukee.	Raccoon.																																2.38	
Webster City.	Des Moines.																																3.45	
West Bend.	do.																																1.54	
Whitten.	Iowa.																																4.44	
Winterset.	Des Moines.																																4.22	
<i>Missouri.</i>																																		
Gorin.	Mississippi.																																	2.93
Hannibal.	do.																																2.77	
Louisiana.	do.																																3.85	
Macon.	do.																																2.30	
Mexico   .	do.																																	

TABLE 2.—*Daily precipitation for October, 1913. District No. 5—Continued.*

\* Precipitation included in that of the next measurement.

<sup>†</sup> Separate dates of falls not recorded.

Precipitation for the 24 hours ending on the morning when it is measured.  
Precipitation is less than 0.01 inch rain or melted snow.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures at selected stations for October, 1913. District No. 5, Upper Mississippi Valley.

Date.	North Dakota.										Minnesota.										St. Paul.		Winnibigoshish.					
	Bottineau.		Devils Lake.		Lisbon.		Minot.		Pembina.		Collegeville.		Crookston.		Grand Meadow.		Montevideo.		Moorhead.		New Ulm.		Pine River Dam.		St. Paul.		Winnibigoshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1.	73	40	70	44	76	40	84	44	—	—	67	49	72	48	76	49	76	47	74	8	69	45	64	46	71	51	66	51
2.	82	35	78	41	78	43	78	42	—	—	69	43	70	34	70	42	77	36	74	33	72	7	70	42	68	45	70	43
3.	65	40	67	42	68	42	65	37	—	—	85	51	75	45	79	42	85	55	74	50	76	51	80	54	84	46	78	49
4.	55	40	53	41	60	39	54	37	—	—	72	55	54	51	69	56	68	55	58	45	65	54	72	50	71	61	72	44
5.	48	40	47	40	65	40	7	39	—	—	63	52	50	44	66	55	54	48	49	44	60	50	55	47	65	51	55	45
6.	47	32	45	34	50	43	47	38	—	—	60	49	44	34	80	50	47	47	44	38	84	48	59	43	78	49	53	38
7.	49	27	55	34	55	30	56	32	—	—	63	37	55	33	70	42	55	35	58	32	65	38	63	36	66	42	54	38
8.	42	28	48	31	58	34	47	33	—	—	68	51	58	35	71	39	77	45	63	41	73	44	70	37	68	45	58	40
9.	47	23	52	29	60	36	50	24	—	—	69	53	63	33	75	53	76	39	67	38	63	45	65	42	70	53	65	36
10.	37	31	47	32	57	38	38	30	—	—	64	42	50	40	72	45	53	45	64	33	61	43	56	44	70	40	53	42
11.	49	28	49	31	63	34	53	33	—	—	52	33	52	30	55	30	60	33	54	32	63	33	52	34	55	35	56	34
12.	63	23	60	29	76	28	70	25	—	—	59	38	52	33	67	40	67	35	58	31	66	43	58	33	60	39	68	34
13.	74	37	73	42	76	26	75	32	—	—	78	42	68	38	75	42	67	45	71	45	82	44	77	34	78	45	72	35
14.	46	39	56	30	67	30	51	41	—	—	68	49	59	44	65	54	68	48	59	35	76	50	66	44	75	47	65	34
15.	49	19	48	23	68	23	55	22	—	—	49	35	45	29	64	35	54	31	46	30	52	33	60	48	53	37	64	32
16.	46	20	49	31	64	30	51	28	—	—	49	33	50	26	49	41	54	31	53	28	55	50	30	50	38	65	30	50
17.	46	22	50	29	70	30	53	29	—	—	51	29	53	30	54	36	57	26	54	29	52	31	56	28	53	38	52	26
18.	39	23	44	24	74	34	48	26	—	—	53	32	50	25	58	28	59	31	57	25	53	26	50	26	54	32	64	24
19.	34	18	26	21	60	38	41	22	—	—	45	29	32	26	41	33	48	28	32	23	42	29	50	28	42	32	48	23
20.	25	15	24	13	60	35	29	20	—	—	30	19	28	20	37	20	33	17	28	13	32	20	34	20	35	19	32	
Mns.	47.5	24.6	44.8	27.8	61.5	31.1	51.6	28.0	—	—	52.9	34.9	48.6	29.5	57.7	34.9	54.6	32.9	51.5	29.7	55.4	33.0	52.9	32.7	55.3	36.2	52.3	29.3

Date.	Wisconsin.										Iowa.										St. Paul.		Winnibigoshish.					
	Eau Claire.		Grantsburg.		Hancock.		La Crosse.		Madison.		Prentice.		Wausau.		Algona.		Cedar Rapids.		Charles City.		Davenport.		Des Moines.		Dubuque.		Keokuk.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1.	72	54	69	49	73	47	76	49	72	48	68	39	72	45	75	49	74	53	75	48	74	54	76	50	73	52	76	53
2.	68	44	70	39	67	44	66	45	63	50	68	41	63	43	74	51	69	50	67	44	71	51	76	49	67	53	73	53
3.	78	39	79	45	74	40	77	40	71	45	69	30	72	36	82	49	80	43	81	43	70	47	83	49	76	42	80	58
4.	70	57	72	56	78	57	71	57	76	54	70	42	77	43	72	61	69	43	68	60	70	61	73	58	60	78	61	83
5.	68	57	65	54	76	53	74	55	71	57	70	43	72	56	66	51	79	60	77	57	79	60	78	61	83	64	73	84
6.	77	49	71	51	75	52	74	53	67	62	73	41	67	50	81	51	79	63	76	54	76	65	84	59	70	64	83	64
7.	69	46	70	40	68	52	64	44	67	54	73	39	61	52	66	41	66	57	68	44	69	58	69	52	70	53	74	61
8.	69	37	70	46	62	42	65	40	68	50	71	29	63	34	71	42	70	53	68	42	77	56	73	52	70	51	80	59
9.	71	49	72	49	69	53	75	52	70	56	71	41	63	41	76	57	79	64	76	58	78	66	81	61	76	60	82	58
10.	75	54	65	48	76	58	76	46	75	50	70	63	72	50	69	46	78	53	73	40	79	51	74	50	78	47	79	51
11.	55	35	52	33	59	37	59	38	55	39	70	33	51	36	59	32	69	39	58	32	61	41	64	38	59	40	64	40
12.	60	41	59	35	60	42	63	42	61	45	59	30	54	37	70	42	70	38	67	44	71	49	78	46	66	47	76	51
13.	74	35	75	35	68	36	74	40	69	43	68	28	68	31	77	47	77	46	74	46	77	51	78	51	74	45	80	52
14.	76	59	72	56	75	55	75	61	73	55	71	34	69	37	73	56	76	52	73	58	76	55	79	59	76	53	83	63
15.	68	49	62	33	70	46	59	44	64	48	71	31	58	43	60	36	62	36	68	34	60	38	62	35	68	46	66	55
16.	51	42	51	34	56	44	51	44	49	43	56	38	46	41	49	42	47	45	48	41	52	44	48	42	49	44	58	48
17.	54	39	53	27	47	37	46	34	43	40	45	38	40	33	53	36	50	43	53	45	49	42	54	43	46	41	55	44
18.	57	27	57	24	55	27	57	29	53	35	53	20	50	27	55	31	54	35	56	30	56	36	55	35	55	37	55	35
19.	43	32	42	31	53	36	46	34	51	34	53	28	50	28	55	30	54	35	54	30	54	38	43	31	52	36	55	35
20.	35	28	36	22	45	28	35	25	44	26	52	25	33	33	37	21	39	32	37	24	39	31	39	27	37	24	41	31

TABLE 3.—*Maximum and minimum temperatures at selected stations for October, 1913. District No. 5—Continued.*

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.																	
					Cairo.		Greenville.		Dwight.		Monmouth.		Mount Vernon. §§		Peoria.		Springfield.		Winnebago.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.	76	55	68	53	76	58	74	53	78	53	77	53	75	54	77	53	75	55	74	48		
2.	76	50	64	54	77	58	77	53	71	52	73	51	77	54	71	45	73	55	67	47		
3.	81	44	75	41	76	53	79	44	79	37	80	41	75	42	78	39	75	47	76	39		
4.	77	59	69	41	78	56	83	50	82	47	81	53	80	46	82	51	78	52	81	50		
5.	82	64	77	50	70	61	76	58	75	57	82	53	71	55	77	58	75	59	73	58		
6.	82	64	79	57	85	67	84	64	81	60	80	62	82	59	81	64	81	64	72	62		
7.	77	62	77	58	82	65	76	61	73	59	73	60	80	62	77	60	74	65	76	52		
8.	80	57	79	54	74	61	73	63	78	60	82	60	78	60	78	60	77	60	74	52		
9.	82	59	83	56	81	64	82	59	78	54	82	54	79	60	78	57	78	58	78	56		
10.	80	54	76	44	82	64	80	64	86	63	77	66	85	63	80	54	82	59	76	62		
11.	64	44	.....	.....	65	51	76	46	65	43	72	39	62	50	60	43	61	46	66	39		
12.	77	51	.....	.....	75	47	77	42	70	44	75	45	73	43	72	45	74	48	65	41		
13.	79	47	64	37	78	54	80	48	74	41	79	46	78	47	76	47	76	49	74	40		
14.	77	61	73	46	77	56	78	49	77	53	78	54	76	52	76	56	75	54	76	52		
15.	66	55	67	47	77	54	80	51	73	55	69	54	76	50	72	54	73	57	67	53		
16.	62	51	57	49	76	59	78	54	62	52	59	46	77	52	57	49	68	53	54	42		
17.	51	47	60	47	68	52	68	50	51	47	50	45	64	50	54	44	58	47	47	41		
18.	57	39	50	44	52	47	55	45	54	41	56	36	52	46	55	39	54	42	50	32		
19.	54	36	53	32	49	38	57	37	53	34	55	34	53	41	55	35	52	39	54	31		
20.	42	31	39	25	40	34	50	34	48	34	55	32	39	39	41	31	44	34	42	31		
21.	41	27	35	25	45	34	46	28	41	24	47	22	46	33	41	25	39	29	40	23		
22.	39	36	45	30	55	45	48	36	36	31	37	32	53	32	37	33	39	34	38	27		
23.	52	32	57	32	55	40	50	36	52	33	55	25	47	38	53	32	50	36	53	25		
24.	65	32	54	30	56	46	64	43	60	30	65	31	53	40	63	30	60	34	60	34		
25.	66	36	56	30	67	42	60	40	58	34	65	35	63	40	64	34	63	43	64	33		
26.	50	33	.....	.....	73	46	68	42	58	37	57	32	70	40	52	36	55	37	46	34		
27.	36	28	.....	.....	46	37	43	36	42	34	37	28	56	.....	37	33	38	34	40	25		
28.	43	27	60	33	51	36	52	30	49	34	46	25	50	33	47	31	50	32	47	27		
29.	36	26	48	33	46	32	46	28	44	29	46	24	34	30	44	27	43	27	40	30		
30.	39	27	41	31	49	33	47	32	43	32	36	30	46	30	40	27	39	30	37	27		
31.	41	24	39	32	46	32	46	24	34	23	42	18	44	26	39	21	39	25	39	19		
Means.....	62.3	43.8	60.94	41.1d	65.4	49.1	66.7	45.2	62.4	42.8	63.5	41.5	64.3	45.6*	61.7	42.4	61.9	45.3	59.5	39.7		

<sup>a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.</sup><sup>§</sup> Data are from standard instruments not supplied by the U. S. Weather Bureau.<sup>§§</sup> Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.